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10/552,377

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Theodor Morel Fishler

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EXAMINER

PIHONAK, SARAH

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/552,377 | Applicant(s) FISHLER, THEODOR MOREL | |
| | Examiner SARAH PIHONAK | Art Unit 1627 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-23 is/are pending in the application.
- 4a) Of the above claim(s) 21-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This application, filed on 8/15/2006, is a national stage entry of PCT/IL04/00317, filed on 4/8/2004.

Priority

This application claims foreign priority to Application No. 155435, filed on 4/14/2003.

Response to Remarks

1. Applicant's arguments filed 9/16/2009 have been fully considered but they are not persuasive. Claims 1-8 and 8-20 were previously rejected under 35 USC § 103(a) as being unpatentable over Olson, US Patent No. 4,731,195, in view of Jones et. al., US Patent No. 5,478,482. The Applicants have amended the claims, and have argued that the teachings of Olson and Jones et. al. do not render the instant invention obvious, as the instant claims are drawn to a mixture of biocide components with boric compounds and alkaline silicates, and does not include coating the composition, as is taught by the prior art. However, it is noted that Olson et. al. also teaches a biocide composition, comprised of trichlorocyanuric acid, halogenated isocyanurate compounds, sodium metasilicate, orthosilicate, and sodium and potassium borates. While Olson et. al. does not explicitly teach that borax or boric acid is present, it is known in the art that sodium and potassium borates are interchangeable with these compounds. While Olson does not explicitly teach that the inorganic component forms a glass coating over the active biocide agent when heated between 300 to 800 °C, it is taught that the composition can be heated to temperatures just below 1100 F to 1600 F (approximately 590-870 °C). As

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the composition taught by Olson has the same inorganic components as those instantly claimed (alkaline silicates, borates, etc.), it would have been obvious that, when the composition taught by Olson was heated, that the inorganic components would also form a glass coating over the biocide. It is known in the art that mixtures of borates and silicates form glass coatings when heated within the specified temperature range. Additionally, while the Applicant has argued that the claimed composition does not include coatings, the claims have comprising language, and as currently amended, do not exclude the presence of coatings or layers. Jones et. al. teaches a biocide composition which also has halogenated hydantoins as oxidants, along with flocculants such as aluminum sulfate. As Olson and Jones et. al. both teach biocide compositions comprised of oxidants, it would have been prima facie obvious for one of ordinary skill in the art to incorporate oxidants such as halogenated hydantoins, and flocculants such as aluminum sulfate, into the composition taught by Olson, with the expectation of success, because both compositions have the same utility. The rejection of the claims was proper and is maintained, for reasons of record. Claims 7-8 and 24-25 have been cancelled by the Applicants; therefore, the rejection of claim 8 is considered moot. Due to the claim amendments, a modified rejection of the claims under 35 USC § 103(a) has been made, which will be discussed in detail further in this office action. Accordingly, this action is made FINAL. Claims 21-23 were previously withdrawn due to the restriction requirement.

2. Claims 1-6 and 9-20 were examined.
3. Claims 1-6 and 9-20 are rejected.

Claim Rejections-35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-6 and 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson, US Patent No. 4,731,195, in view of Jones et. al., US Patent No. 5,478,482.

7. The claims are drawn to a biocide mixture comprising more than 80% by weight of biocidal components and a combination of boric compounds and alkaline silicates, which are capable of reducing the oxidative capacity of the biocidal components by forming a glass when the composition is heated to a temperature between 300 to 800 °

C. The claims are also drawn to a composition in which the biocidal oxidant is trichloroisocyanuric acid, and the boric compounds include boric acid, borax, or sodium tetraborate. The instant claims also cite that the sodium silicates have a SiO₂/Na₂O ratio between 2 to 5, and that the Na₂O comprises 12-25 % by weight. It is also cited that the

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boric compounds comprise between 10-15 % the weight of the composition, and the silicates 2-8% the weight of the composition. The composition also further comprises a flocculant, such as aluminum sulfate, and the composition exists in the form of tablets, etc.

Olson teaches a biocide composition comprised of halogen bleach agents such as trichlorocyanuric acid, and halogenated isocyanurate compounds (column 4, lines 36-38, 47-48, and 51). Olson also teaches that the active biocide agent is covered with a layer of inorganic compounds, such as sodium metasilicate (Na_2SiO_3), orthosilicate (Na_4SiO_3), and sodium sequisilicate, and borates such as sodium and potassium borates (Abstract, column 5, lines 39-62). Therefore, Olson teaches that the ratio of $\text{SiO}_2/\text{Na}_2\text{O}$ is within the range of 2 to 5, and that the content of Na_2O varies within the range of 12-25%, which meets claim 11. While borax and boric acid are not explicitly taught by Olson, it is known in the art that sodium and potassium borates are interchangeable with these compounds. While Olson does not explicitly teach that a mixture of borates and silicates are used for the coating, it is taught that a mixture of the inorganic compounds can be used (column 5, lines 38-column 6, line 9). Olson also teaches that the components of the inorganic coating, which includes the sodium silicates and borates, comprises between 2 to 30% by weight of the composition (column 6, lines 65-column 7, line 7), which meets claims 13-16. It is taught that the amount of active bleach agent comprises from 30 to 95 % by weight of the core, between 2 to 40 % by weight of one coating, and from 2 to 30% by weight of the additional coating (column 10, claim 9). Therefore, it would have been obvious to one of

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ordinary skill in the art that, as the mass of the core and coatings can vary, that the weight percent of the active bleaching agent in the composition could reach in excess of 80% of the composition weight.

It is noted that while Olson does not explicitly teach that the inorganic component coating forms a low-melting glass over the active biocide agent when heated between 300 to 800 °C, Olson does teach that the composition can be heated to temperatures just below 1100 F to 1600 F (approximately 590-870 °C), which can vary depending upon the inorganic components (column 3, lines 23-34, and column 5, lines 8-17). It is known in the art that mixtures of borates, boric compounds, and silicates form glass coatings when heated within the specified temperature range. Furthermore, Olson does teach an inorganic coating that surrounds the active biocide agent. The inorganic compounds which make up the coating include silicates and borates, or boric acid, as claimed in the instant invention. Therefore, the inorganic coating that reduces the oxidant ability of the biocide as disclosed for the instant invention is taught by Olson.

Olson does not teach that the composition contains a flocculant such as aluminum sulfate, or oxidants such as dihalo-dialkyl-hydantoins. Olson also does not explicitly teach that the composition is in the form of tablets, briquettes, granules, or powder.

Jones et. al. discloses a biocide composition which contains halogenated hydantoins as oxidants, along with flocculants such as aluminum sulfate (Abstract, column 4, line 62-column 5, line 6; column 6, lines 53-56). Jones et. al. also teaches that the composition is in the form of tablets, sticks, etc. (column 4, lines 54-57). It is

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also taught that the halogenated biocide agent comprises up to 99.9 parts of the composition (column 7, lines 49-62).

Olson and Jones et. al. both teach biocide compositions comprised of oxidants. A reasonable expectation of success would have been expected by adding the constituents taught by Jones et. al. to the composition taught by Olson. Therefore, it would have been prima facie obvious for one of ordinary skill in the art, at the time of the invention, to incorporate oxidants such as halogenated hydantoins, and flocculants such as aluminum sulfate, into the composition taught by Olson, because both compositions are used as biocides.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARAH PIHONAK whose telephone number is (571)270-7710. The examiner can normally be reached on Monday-every other Friday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on (571)272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S.P.

/SREENI PADMANABHAN/

Supervisory Patent Examiner, Art Unit 1627

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